

Date: Sat, 23 Jan 93 10:38:15 PST
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>
Errors-To: Info-Hams-Errors@UCSD.Edu
Reply-To: Info-Hams@UCSD.Edu
Precedence: Bulk
Subject: Info-Hams Digest V93 #101
To: Info-Hams

Info-Hams Digest Sat, 23 Jan 93 Volume 93 : Issue 101

Today's Topics:

* SpaceNews 25-Jan-93 *

?? TH78 or C558 ???

DSP and The Future

Extra Class Question Pools

ding PL Tones and McDonald's

Ham Grafix on CDROM

Ham Radio Causes Cancer!

ham vendor info

book for Windows... (2 msgs)

Real NoCodes

1 from Internet to packet??? (2 msgs)

Spark Plug Wires

What To Do About Intermod

L? (was Re: Extra Class Question Pool

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available (by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text herein consists of personal comments and does not represent the official policies or positions of any party. Your mileage may vary. So there.

Date: 23 Jan 93 17:04:38 GMT
From: news-mail-gateway@ucsd.edu
Subject: * SpaceNews 25-Jan-93 *
To: info-hams@ucsd.edu

SB NEWS @ AMSAT \$SPC0125
* SpaceNews 25-Jan-93 *

Bulletin ID: \$SPC0125

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SpaceNews
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MONDAY JANUARY 25, 1993

SpaceNews originates at KD2BD in Wall Township, New Jersey, USA. It is published every week and is made available for unlimited distribution.

* MIR NEWS *

=====

Dave, N6JLH, in California captured the following packet frames transmitted from the space station Mir on a frequency of 145.550 MHz on 20-Dec-92:

20-Dec-92 23:42:01 U6MIR-1*>KA0QZK (DM)
20-Dec-92 23:42:02 U6MIR*>KD2BD-1 [C]
20-Dec-92 23:42:17 KG6NI*>U6MIR-1 [C]
20-Dec-92 23:42:20 U6MIR*>KD2BD-1 [C]
20-Dec-92 23:42:26 U6MIR*>KD2BD-1 [C]
20-Dec-92 23:42:30 U6MIR*>KD2BD-1 [C]

If I had known the cosmonauts had wanted a keyboard-to-keyboard chat with me, I would have turned my TNC on! Dave reports packet activity from Mir only when the cosmonauts are at the keyboard. Unattended PMS operations are no longer common.

Final preparations are being made for the Soyuz TM-16 flight to the Commonwealth of Independent States Mir space station, set for 24-Jan-93. The new crew, Manakov and Polishcuk, arrived at the Baikonor Cosmodrome on January 9/10th. They will be releasing cosmonauts Anatoli Solovyov and Sergei Avdeyev (up for 173 days now, since July 30) who are preparing for the end of their mission. In addition two other flights to Mir are planned for 1993, a joint French mission in July, and another flight at the end of the year. That final flight will provide a crew which plans to stay up for 18 months, beating the current record of 366 days. (Radio Moscow)

An interesting report noted that a joint Russian/French flight tested an improved version of the Russian supersonic ramjet engine (scramjet) on top of a rocket booster. The scramjet started at Mach 3.5 (3.5 times the speed of sound) and had a successful subsonic to supersonic combustion transition at Mach 5. It ran supersonic combustion for over 15 seconds (three times longer than the flight last year) until running out of liquid hydrogen. (AW&ST Dec. 7, 14/21)

[Info via Glenn Chapman]

* F0-20 STATUS *

=====

The latest Mode JA analog transponder schedule from Kazu Sakamoto, JJ1WTK, at F0-20 mission control is as follows:

19-Jan-93 23:10 UTC -to- 20-Jan-93 23:45 UTC

26-Jan-93 23:30 UTC -to- 26-Jan-93 23:50 UTC

Mode JD operation will occur continuously Tuesday through Thursday.

* STS-56 KEPS *

=====

The following is a Keplerian element set for Shuttle mission STS-56 based on a 23-Mar-93 launch. This mission will include SAREX activities.

STS-56

1 00056U	93 82.30325346	.00055200	00000-0	16200-3	0	28
2 00056	57.0020	168.1447	0011289	286.7156	73.2672	15.91759473

Satellite: STS-56

Catalog number: 00056

Epoch time: 93082.30325346 =====> (23 MAR 93 07:16:41.10 UTC)

Element set: JSC-002

Inclination: 57.0020 deg

RA of node: 168.1447 deg Space Shuttle Flight STS-56

Eccentricity: .0011289 Prelaunch Keplerian Elements

Arg of perigee: 286.7156 deg Launch: 23 MAR 93 05:50 UTC

Mean anomaly: 73.2672 deg

Mean motion: 15.91759473 rev/day G. L. Carman

Decay rate: 5.52000e-04 rev/day*2 NASA Johnson Space Center

Epoch rev: 2

* OSCAR-13 BANDPASS *

=====

The following OSCAR-13 bandpass report comes to us by way of Sergio, IK5AAX:

SERGIO MORELLI

VIA PIOVOLA 1

50053 EMPOLI -Italy

LOCATOR JN53LR

OSCAR 13 BANDPASS

:

TUESDAY 12:
0613 145885 PJ77C
1506-145895 OM3AU
1515-145893 DL2XW
1558-145903 XX9AS
1630-145896 VU2DVP

WEDNESDAY 13:
1509-145909 XX8AS

FRIDAY 15:
1052-145890 KC6ML
1240-145892 XU6TQ

SATURDAY 16:
2153-145893 CU1CB

SUNDAY 17:
1025-145892 VS6YHT

* WESTERN WASHINGTON AMSAT NET *

=====

Please join us beginning Wednesday, January 20, 1993 and every Wednesday evening at 8:00 PM on the K6LIE, 224.160 MHz, Roosevelt Hill (Seattle) Repeater for our new AMSAT net.

If you are interested in Amateur Satellite communications, you will find all manner of news, information and hints on working all the AMSAT satellites that are in operation as well as AMSAT and ARRL news regarding future satellite programs.

If you are new and wish to "GET YOUR FEET WET", you are welcome to join us on the K6LIE OSCAR 13 GATEWAY and actually communicate through OSCAR 13 via the 224.160 MHz Gateway, conditions permitting. The Gateway is a manual operation and since its start in October, we have had a great time working various countries via the OSCAR-13 Gateway. This would be a good opportunity for those of you who do not have a satellite station to actually hear what the bird sounds like and actually work through the Gateway via your 220 handheld or base station.

So please join us Wednesday, January 20 at 8:00pm for the AMSAT net Richard, N7VWJ will be net control. All Amateurs are invited to participate. If you tune in and listen, please check in your participation is vital to keeping the net going. Information on the Amateur Satellite program will be gathered from several sources and this will be one place where you can learn and receive a wealth of information on satellite

operation.

If you have questions, please contact Jerry, K6LIE at 940-0073 or Richard via packet at N7VWJ @ N7DUO.WA.USA.NA.

* FEEDBACK/INPUT WELCOMED *

=====

Mail to SpaceNews should be directed to the editor (John, KD2BD) via any of the following paths:

FAX : 1-908-747-7107
UUCP : ...catfish.ocpt.ccur.com!ka2qhd!kd2bd
PACKET : KD2BD @ NN2Z.NJ.USA.NA
INTERNET : kd2bd@ka2qhd.de.com -or- kd2bd@amsat.org

MAIL : John A. Magliacane, KD2BD
Department of Engineering and Technology
Advanced Technology Center
Brookdale Community College
Lincroft, New Jersey 07738
U.S.A.

<<-- SpaceNews: The first amateur newsletter read in space! -->>

/EX

--
John A. Magliacane FAX : (908) 747-7107
Engineering & Technology Dept. AMPR : KD2BD @ NN2Z.NJ.USA.NA
Brookdale Community College UUCP : ...!rutgers!ka2qhd!kd2bd
Lincroft, NJ 07738 USA VOICE: (908) 224-2948

Date: Sat, 23 Jan 1993 07:45:35 GMT
From: sdd.hp.com!saimiri.primate.wisc.edu!hp9000.csc.cuhk.hk!uxmail!
ee_hflo@network.UCSD.EDU
Subject: ?? TH78 or C558 ???
To: info-hams@ucsd.edu

Harald Landvoigt (K3006E1@ALIJKU11.BITNET) wrote:
: hi everybody,
: i will buy a new duo-band-ht in the next few weeks, but i dont know
: which one to take !!!....
: so it would be nice if you could answer my questions.....
: here they are:
: 1) how is the rx-sensitivity of the th78 on the 118-174,300-400,400-500,

: 850-950 MHz bands ???
:
: 2) the rx-frequ.range of the C558 an the sensivity????
: 3) is it possible to rx two frequ. on the same band with the C558
: (like the VHF+VHF , UHF-UHF function of the th78)???

: ok thats all by now
: thanx and 73 de harald, oe5len

I have same problem, if you recevie any reply please forward to me

Lo Ho Fung Michael Comp 'N'	== Internet e-mail address ==
Department of	University : ee_hflo@stu.ust.hk
Electrical & Electronic Engineering	: mlo@nyx.cs.du.edu
The Hong Kong University	: michaelo@gnct.com
of Science & Technology	Radio Call Sign : VR2YJR

Date: Sat, 23 Jan 1993 13:30:41 GMT
From: usc!zaphod.mps.ohio-state.edu!magnus.acs.ohio-state.edu!
rlong@network.UCSD.EDU
Subject: DSP and The Future
To: info-hams@ucsd.edu

I think lots of military receivers have used DSP at IF frequencies for a long time. I recall a Collins (Rockwell) receiver of that type around 1985. Even saw one of them advertised in the QST classifieds awhile back. I think they were made for the Canadian military.

And look at the Watkins Johnson ad on page 123 of Feb 1993 QST. So you can buy it now. Price?

Ron W8GUS.

Date: 23 Jan 93 11:00:49 EST
From: psinntp!arrl.org@uunet.uu.net
Subject: Extra Class Question Pools
To: info-hams@ucsd.edu

In rec.radio.amateur.misc, root@jackatak.raider.NET

(Jack GF Hill - Sysop [HOME]) writes:

>> Somewhere out there in net-land is a copy of the question pool
>> for the amateur extra exam at some FTP site.
>> Please let me know where I can FTP a copy of the extra question pool.

>Would you settle for an ASCII text file of the question pool available
>via e-mail?

>Send your request formatted with no subject (the file server doesn't
>care anyway) and the following message text (with NOTHING preceding
>this text):

```
>info@arrl.org
>send pool-extra-1
>send pool-extra-2
>send pool-extra-3
>quit
```

I will take this opportunity to let everyone know we have fixed several annoying bugs in our server. It no longer fails on the first error -- it will allow up to 5 before it stops trying to send you stuff. So if your mailer inserts some stuff in the actual text of the message, it will still work. We have also set it up to ignore most header-type info that is in the body of the text too (such as To: Date: etc.). We have also just fixed the bugs that resulted in many users being sent TWO of everything (annoying, I bet), so all-in-all it should be a lot easier to use.

73 from ARRL HQ, Ed -- KA1CV

Ed Hare, KA1CV
American Radio Relay League
225 Main St.
Newington, CT 06111
(203) 666-1541 - voice
ARRL Laboratory Supervisor
RFI, xmtr and rcvr testing

ehare@arrl.org

You will never put the puzzle together
if you keep putting all the pieces
back in the box.

Date: Sat, 23 Jan 1993 14:56:12 GMT
From: sdd.hp.com!swrinde!zaphod.mps.ohio-state.edu!cs.utexas.edu!asuvax!ukma!
news@network.UCSD.EDU
Subject: Finding PL Tones and McDonald's
To: info-hams@ucsd.edu

I was just wondering how one would find out what PL tone a particular radio setup was using. I have noticed that the local McDonald's drive thru window radios do not suffer from intermod like mine does on the same frequency as I go through their drive thru. I am assuming they are using some sort of PL tone or CTCSS (not really sure what the difference is). I was wondering how you might figure out what frequency the PL tone is?

John

--
-++ John S. Roberts, Jr. FACTS Center McVey Hall Room 100 +-+
-++ Communications Consultant Work: (606)257-2275 Home: 272-1417 +-+
-++ University of Kentucky Ham: KD4UBM DoD: 727 '85 Shadow +-+
-++ Computing Center HomeUUCP: johnr%agnostic@ms.uky.edu +-+

Date: 23 Jan 93 16:41:26 GMT
From: news-mail-gateway@ucsd.edu
Subject: Ham Grafix on CDROM
To: info-hams@ucsd.edu

QUICKIE:

I publish the club newsletter (The Paper Repeater).
I'm not an artist.
I saw an ad somewhere for Ham Radio Clipart on CDROM.
Now I can't find the ad.
Help?

Tnx

Bob Grochowski -- N5UPF
Alcatel Amateur Radio Association

Alcatel Network Systems Inc
AARA M/S 401-212
1225 North Alma Road
Richardson TX 75081

Date: 23 Jan 93 12:54:00 GMT
From: sdd.hp.com!nigel.msen.com!hela.iti.org!cs.widener.edu!dsinc!ub!
acsu.buffalo.edu!ubvmsd.cc.buffalo.edu!oopdavid@network.UCSD.EDU
Subject: Ham Radio Causes Cancer!
To: info-hams@ucsd.edu

In article <14570593@hpnmrla.sr.hp.com>, alanb@hpnmrla.sr.hp.com (Alan Bloom)

writes...

>Some time ago, several people asked me for a copy of Dr Milham's
>famous paper supposedly showing that amateur radio causes cancer.

>I recently found my copy, so if anyone wants me to photocopy it for
>them, send me an SASE (with a note about what it's for!)

>

>I also wrote an article for our local ham club newsletter debunking
>the article. If there's interest, I'll see if I can find it and
>post it.

>

>AL N1AL

Gentlemen, lets get a few things straight. First, Dr. Milham did not report that amateur radio causes cancer. He did perform a statistical analysis of death certificates in his west coast area and compared causes of death with avocation. He did find that several diseases had a higher than expected rate of occurrence than the normal population. Those diseases were predominantly types of leukemia and lymphoma. Anyone who feels that this article purports our hobby is lethal and rebukes its contents should also consider other noteworthy publications concerning electromagnetic fields.

Secondly, Dr. Milham has been a speaker, with me, at a Hamfest in LA several years ago. His information was well received by the audience.

Third, the data is not conclusive enough yet to condemn any single source of electromagnetic field as cancer promoting. Promotion, that is the correct technical work here. But recent European data is highly suggestive that 50 Hz fields are again associated with increased risk of childhood leukemia. Readers should try to understand this concept: Use of ham equipment has such low frequency fields, like any appliance with a large transformer. The use of such equipment generally places some portion of the body in a fairly strong magnetic area. That exposure hour after hour, while listening to our equipment is similar in strength to those fields commonly associated with other leukemias. One must be careful not to make the wrong conclusion. The field is ASSOCIATED with increased risk of cancer in these studies. The general rate is very LOW. It is statistically IMPOSSIBLE to separate what cancer (leukemia) arises from the field and what cancer would have occurred anyway.

As a member of the ARRL committee on RF hazards, I ask anyone interested in this topic to refer to our opinions on the matter in ARRL publications, like the antenna handbook.

73, Dave (KN2M)
ARRL Technical Advisor

Date: 23 Jan 93 16:13:46 GMT

From: news-mail-gateway@ucsd.edu
Subject: ham vendor info
To: info-hams@ucsd.edu

I'd like to get see of the vendors (Kenwood, Yaesu, ICOM, Alinco, MFJ, etc) post technical information on their products somewhere on USENET. Information that will give you more detail than an ad in QST and something you can get without having to either write to the vendor or write or visit a dealer. Anyone got any contacts or any ideas on how this can be done? If so, pass it on to some vendors.

73s,

Stan, KC4ZGF

Stanley D. Boyd
Project Manager-CALS Applications
Systems Integration
Intergraph Corporation
Mail Stop GD3005
Huntsville, AL 35894-0001
Phone: (205)730-3135
FAX: (205)730-3301
INTERNET: boyd@afsp.b30.ingr.com

Date: Sat, 23 Jan 1993 17:37:39 GMT
From: usc!rpi!gatech!psuvax1!news.ecn.bgu.edu!garrot.DMI.USherb.CA!
royre00@network.UCSD.EDU
Subject: Logbook for Windows...
To: info-hams@ucsd.edu

Does somebody have a log program for Windows??

thank

Date: Sat, 23 Jan 1993 18:15:38 GMT
From: usc!cs.utexas.edu!asuvax!ukma!news@network.UCSD.EDU

Subject: Logbook for Windows...
To: info-hams@ucsd.edu

I seem to remember seeing something advertised in QST...

--
-+= John S. Roberts, Jr. FACTS Center McVey Hall Room 100 +-+
-+= Communications Consultant Work: (606)257-2275 Home: 272-1417 +-+
-+= University of Kentucky Ham: KD4UBM DoD: 727 '85 Shadow +-+
-+= Computing Center HomeUUCP: johnr%agnostic@ms.uky.edu +-+

Date: Sat, 23 Jan 1993 14:47:27 GMT
From: usc!howland.reston.ans.net!bogus.sura.net!udel!sbcs.sunysb.edu!
rick@network.UCSD.EDU
Subject: Real NoCodes
To: info-hams@ucsd.edu

In article <kd1hz.1@anomaly.sbs.com> kd1hz@anomaly.sbs.com (Michael P. Deignan) writes:

> REAL NOCODES
> By Michael P. Deignan
> kd1hz@anomaly.sbs.com

[text deleted]

>And yes... Every one of these actually happened.

>Have any others? Email them to me!

>
> Michael P. Deignan, KD1HZ
> Domain: mpd@anomaly.sbs.com I'm not a bigot,
> UUCP: ...!uunet!anomaly!mpd I hate everyone...
> Telebit: +1 401 455 0347

Mike, don't you have something better to do than collect a list like this? Having more folks in the ARS serves us all and whether or not they can operate a particular mode ought not to make a subclass of them. My advice? Either make a list that pokes fun at everyone (ie all license class) or find something else to amuse yourself. 73 OM

Rick Spanbauer WB2CFV
SUNY/Stony Brook

Date: Sat, 23 Jan 93 07:09:30 MST
From: usc!cs.utexas.edu!asuvax!ennews!stat!david@network.UCSD.EDU

Subject: Sending email from Internet to packet???
To: info-hams@ucsd.edu

larsent@ucsu.Colorado.EDU (LARSEN TORE HOIVAAG) writes:

> Could somebody tell me if it is possible to send mail from Internet
> to the Ham radio packet BBS system?

How to Use the WB7TPY
Packet <-> Internet Gateway

First, some brief operational notes:

- (1) Messages must not contain any foul language, or commercial purpose.
- (2) Messages can only be sent to countries that the United States has a third-party agreement. All others will be destroyed.
- (3) Messages from the internet should be less than 5K in length.
No files should be sent.
- (4) If you have questions, please do not hesitate to contact me either on packet radio: WB7TPY@WB7TPY.AZ.USA.NA -or-
Internet : david@stat.com -or-
Fidonet : David Dodell @ 1:114/15
- (5) Have fun. Use the gateway as much as you like. That is what it is there for.

From Internet to Packet

Send mail to the internet address of:

gate@wb7tpy.ampr.org

The first line of text must contain a full packet address, proceeded with the word "Packet:"

For example, mail to my packet address, would have the first line of text;

Packet: wb7tpy@wb7tpy.az.usa.na

From Packet to Internet

Send as private mail (never a bulletin) to the packet address of:

gate@wb7tpy.az.usa.na

The first line of text must contain a full domained internet address, proceeded with the word "Internet:"

For example, mail to my internet address, would have the first line of text;

Internet: david@stat.com

Internet: david@stat.com FAX: +1 (602) 451-1165
Bitnet: ATW1H@ASUACAD FidoNet=> 1:114/15
Amateur Packet ax25: wb7tpy@wb7tpy.az.usa.na

Date: Sat, 23 Jan 1993 17:00:07 GMT
From: usc!howland.reston.ans.net!spool.mu.edu!tulane!ukma!news@network.UCSD.EDU
Subject: Sending email from Internet to packet???
To: info-hams@ucsd.edu

How do I find the internet gateway address nearest me.

Thanks,

John

--

-+= John S. Roberts, Jr. FACTS Center McVey Hall Room 100 +-+
-+= Communications Consultant Work: (606)257-2275 Home: 272-1417 +-+
-+= University of Kentucky Ham: KD4UBM DoD: 727 '85 Shadow +-+
-+= Computing Center HomeUUCP: johnr%agnostic@ms.uky.edu +-+

Date: 23 Jan 93 16:47:07 GMT
From: news-mail-gateway@ucsd.edu
Subject: Spark Plug Wires
To: info-hams@ucsd.edu

It's about time for a tune up on a Chevy Pickup. Any recommendations on spark plug wires that suppress noise? I know there are many brands that say they are "suppressor" wires, but has anyone had any better or worse success with one brand over another??

Thanks in advance.

Stan, KC4ZGF

```
-----  
| Stanley D. Boyd |  
| Project Manager-CALS Applications |  
| Systems Integration |  
| Intergraph Corporation |  
| Mail Stop GD3005 |  
| Huntsville, AL 35894-0001 |  
| Phone: (205)730-3135 |  
| FAX: (205)730-3301 |  
| INTERNET: boyd@afsp.b30.ingr.com |  
|-----|
```

Date: Sat, 23 Jan 1993 14:52:05 GMT
From: usc!elroy.jpl.nasa.gov!swrinde!gatech!ukma!news@network.UCSD.EDU
Subject: What To Do About Intermod
To: info-hams@ucsd.edu

I have a TH78 and a Diamond 7 something dual band car antenna. It has 3 db gain on 2 meters and 5 db gain on 440. I get intermod like crazy! Mostly is pager type things, but can be just about anything. What can I do? Is the problem that my radio is designed to be used with a less sensitive antenna than the diamond, or is there some other reason.

Thanks for your advice!

John

--
-=-+ John S. Roberts, Jr. FACTS Center McVey Hall Room 100 +-+
-=-+ Communications Consultant Work: (606)257-2275 Home: 272-1417 +-+
-=-+ University of Kentucky Ham: KD4UBM DoD: 727 '85 Shadow +-+
-=-+ Computing Center HomeUUCP: johnr%agnostic@ms.uky.edu +-+

Date: 23 Jan 93 11:17:46 EST
From: psinntp!arrl.org@uunet.uu.net
Subject: Who is the ARRL? (was Re: Extra Class Question Pools)
To: info-hams@ucsd.edu

In rec.radio.amateur.misc, root@jackatak.raider.NET
my friend, (Jack GF Hill - Sysop [HOME]) writes:

Stuff about the question pools and the ARRL mail server deleted.

>I'm not the League, just an OF Life member who thinks it's neato that HQ
~~~~~  
>is on InterNet!  
>73 ES GUD LUCK  
>Jack

Jack and I have developed a bit of a friendship, so I can give him a bit of what-for and still be within the bounds of good taste. :-),

so:

SHAME ON YOU, Jack!!! :-).

As I go out into the world to represent ARRL Headquarters at ARRL Conventions, I am often one of the guest speakers at one of the banquets or dinners. In my introduction, it is often pointed out that the League Convention is lucky to have someone from the League present at the dinner. I stand up, say how glad I am to be there, and start to point out that I am not the only one from the League at the dinner -- in fact, as I look around the room at the number of League diamonds on all of the name badges, I see that there are LOTS of people from the League there. The American Radio Relay League is NOT just in Newington, CT! It is a large collection of members, Division Directors, Field appointees and the Headquarters staff. We are only a PART of the ARRL, an important part, IMHO, but only a part. The real League is out in the world, on your local repeater, or in a 20-meter pileup trying for a new one. The real League is found at your local club, or on your local traffic net or packet bulletin board. The true nature of ARRL is not what we (the HQ staff make it), but is what the rest of us (all the people "out there") make it. Its true strengths (and weaknesses) are found in the local programs, clubs, membership activities, traffic nets, publicity events, ham classes, volunteer-examiner teams, and in just plain old operating!

I even find that I sometimes have to remind MYSELF that ARRL is not just to be found in Newington. It is found all over the US (and overseas through associate members and full members with military addresses). So, Jack, I must correct your mis-understanding --- you ARE the League, as much as I.

So, in closing, 73 to the ARRL from a member of the ARRL Headquarters staff. Ed -- KA1CV

Newington, CT 06111  
(203) 666-1541 - voice  
ARRL Laboratory Supervisor  
RFI, xmtr and rcvr testing

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End of Info-Hams Digest V93 #101

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You will never put the puzzle together  
if you keep putting all the pieces  
back in the box.